ABSTRACT

A semiconductor device, including: a semiconductor substrate of a first conductivity; and a semiconductor layer provided on the semiconductor substrate and having a super junction structure including drift layers of the first conductivity and RESURF layers of a second conductivity different from the first conductivity, the drift layers and the RESURF layers being laterally arranged in alternate relation parallel to the semiconductor substrate, the RESURF layers being each provided alongside an interior side wall of a trench penetrating through the semiconductor layer, the drift layers each having an isolation region present between the RESURF layer and the semiconductor substrate to prevent the RESURF layer from contacting the semiconductor substrate.